

Class 10 Practical File Programs

Q1. Write a program to add elements of two list.

Program:

```
test_list1 = [1, 3, 4, 6, 8]
test_list2 = [4, 5, 6, 2, 10]

print("Original list 1 :", test_list1)
print("Original list 2 :", test_list2)

res_list = []
for i in range(0, len(test_list1)):
    res_list.append(test_list1[i] + test_list2[i])

print("Resultant list is :", res_list)
```

RESULT:

Original list 1 : [1, 3, 4, 6, 8]

Original list 2 : [4, 5, 6, 2, 10]

Resultant list is : [5, 8, 10, 8, 18]

Q2. Create a Simple Calculator

Program:

```
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))

print("1. Addition")
print("2. Subtraction")
print("3. Multiplication")
print("4. Division")

choice = int(input("Enter choice: "))

if choice == 1:
    print("Answer =", a + b)
elif choice == 2:
    print("Answer =", a - b)
```

```
elif choice == 3:
    print("Answer =", a * b)
elif choice == 4:
    print("Answer =", a / b)
else:
    print("Invalid Choice")
```

RESULT:

Enter first number: 4

Enter second number: 6

1. Addition
2. Subtraction
3. Multiplication
4. Division

Enter choice: 3

Answer = 24

Q3. Write a program to display line chart from (2,5) to (9,10)

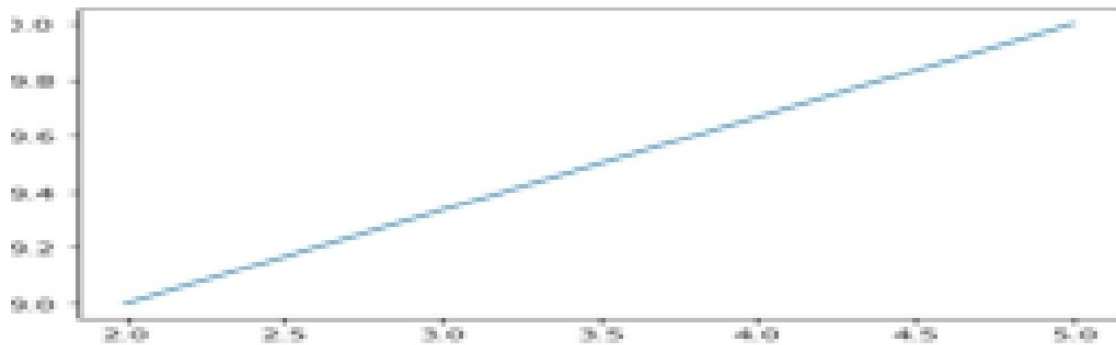
Program:

```
import matplotlib.pyplot as plt
```

```
plt.plot([2,5], [9,10])
plt.show()
```

RESULT:

```
1 import matplotlib.pyplot as plt
2 import numpy as np
3 plt.plot([2,5], [0,10])
4 plt.show()
```



1

Q4. Write a program to plot scatter chart for the following points (2,5), (9,10), (8,3), (5,7), (6,18)

Program:

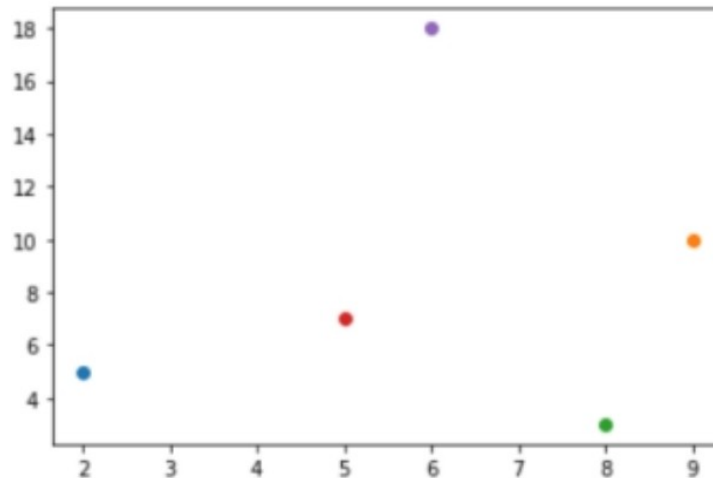
```
import matplotlib.pyplot as plt
```

```
plt.scatter(2,5)
plt.scatter(9,10)
plt.scatter(8,3)
plt.scatter(5,7)
plt.scatter(6,18)
plt.show()
```

RESULT:

```
In [3]: 1 import matplotlib.pyplot as plt
        2 import numpy as np
        3 plt.scatter(2,5)
        4 plt.scatter(9,10)
        5 plt.scatter(8,3)
        6 plt.scatter(5,7)
        7 plt.scatter(6,18)
```

Out[3]: <matplotlib.collections.PathCollection at 0x19b582c3688>



Q5. Write a program to Reverse a string

Program:

```
text = input("Enter a string: ")
print("Reversed String =", text[::-1])
```

RESULT:

Enter a string: PRACTICAL FILE

Reversed String = ELIF LACITCARP

Q6. Write a program to calculate the area of a triangle

Program:

```
B = int(input("Enter breadth: "))
H = int(input("Enter height: "))
```

```
Area = (1/2 * B * H)
print(Area)
```

RESULT:

Enter breadth: 5

Enter height: 6

15.0

Q7. Write a program to calculate the average of 3 numbers

Program:

```
num1 = int(input('Enter number 1: '))  
num2 = float(input('Enter number 2: '))  
num3 = int(input('Enter number 3: '))
```

```
Average = (num1 + num2 + num3) / 3  
print(Average)
```

RESULT:

Enter number 1: 1

Enter number 2: 4.1

Enter number 3: 2

2.3666666666666667

Q8. Write a program to check the largest of the 3 numbers

Program:

```
a = int(input("Enter number A: "))  
b = int(input("Enter number B: "))  
c = int(input("Enter number C: "))
```

```
if (a >= b) and (a >= c):
```

```
    largest = a
```

```
elif (b >= a) and (b >= c):
```

```
    largest = b
```

```
else:
```

```
    largest = c
```

```
print("The largest number is", largest)
```

RESULT:

Enter number A: 1

Enter number B: 4

Enter number C: 4

The largest number is 4

Q9. Write a program to remove elements from a list

Program:

```
list1 = [1,2,3,4,5]  
print(list1)
```

```
list1.remove(4)  
print(list1)
```

RESULT:

[1, 2, 3, 4, 5]

[1, 2, 3, 5]

Q10. Write a program to print the multiplication table of a number

Program:

```
A = int(input("Enter the number: "))
```

```
for i in range(1,11):  
    B = A * i  
    print(A, "X", i, "=", B)
```

RESULT:

Enter the number: 14

14 X 1 = 14

14 X 2 = 28

14 X 3 = 42

14 X 4 = 56

14 X 5 = 70

14 X 6 = 84

14 X 7 = 98

14 X 8 = 112

14 X 9 = 126

14 X 10 = 140

Q11. Write a program to find if a character is a vowel or a consonant

Program:

```
ch = input("Enter a character: ")
```

```
if ch in "aeiouAEIOU":
```

```
    print(ch, "is a vowel")
```

```
else:
```

```
    print(ch, "is a consonant")
```

RESULT:

Enter a character: V

V is a consonant

Q12. Write a program to print leap years from 1900 to 2010

Program:

```
print("Leap years from 1900-2010 are")
```

```
for i in range(1900, 2011):
```

```
    if i % 4 == 0:
```

```
        print(i)
```

RESULT:

Leap years from 1900-2010 are

1900

1904

1908

1912

1916

1920

1924

1928

1932

1936

1940

1944

1948

1952

1956

1960

1964

1968

1972

1976

1980

1984

1988

1992

1996

2000

2004

2008

Q13. Write a program to calculate the sum of numbers from m to n

Program:

```
m = int(input('Enter value of m: '))
n = int(input('Enter value of n: '))
```

```
s = 0
while m <= n:
    s += m
    m += 1
```

```
print("Sum is", s)
```

RESULT:

Enter value of m: 56

Enter value of n: 87

Sum is 2288

Q14. Write a program to allot grades to a student's average marks

Program:

```
a = int(input('Enter the student average marks: '))
```

```
if a >= 75:
    print('Grade O')
elif 60 <= a < 75:
    print('Grade A')
elif 50 <= a < 60:
    print('Grade B')
elif 40 <= a < 50:
    print('Grade C')
else:
    print('Grade D')
```

RESULT:

Enter the student average marks: 65

Grade A

Q15. Write a program to check whether it is a prime number

Program:

```
num = int(input("Enter a number: "))
```

```
count = 0
```

```
for i in range(1, num + 1):
```

```
    if num % i == 0:
```

```
        count += 1
```

```
if count == 2:
```

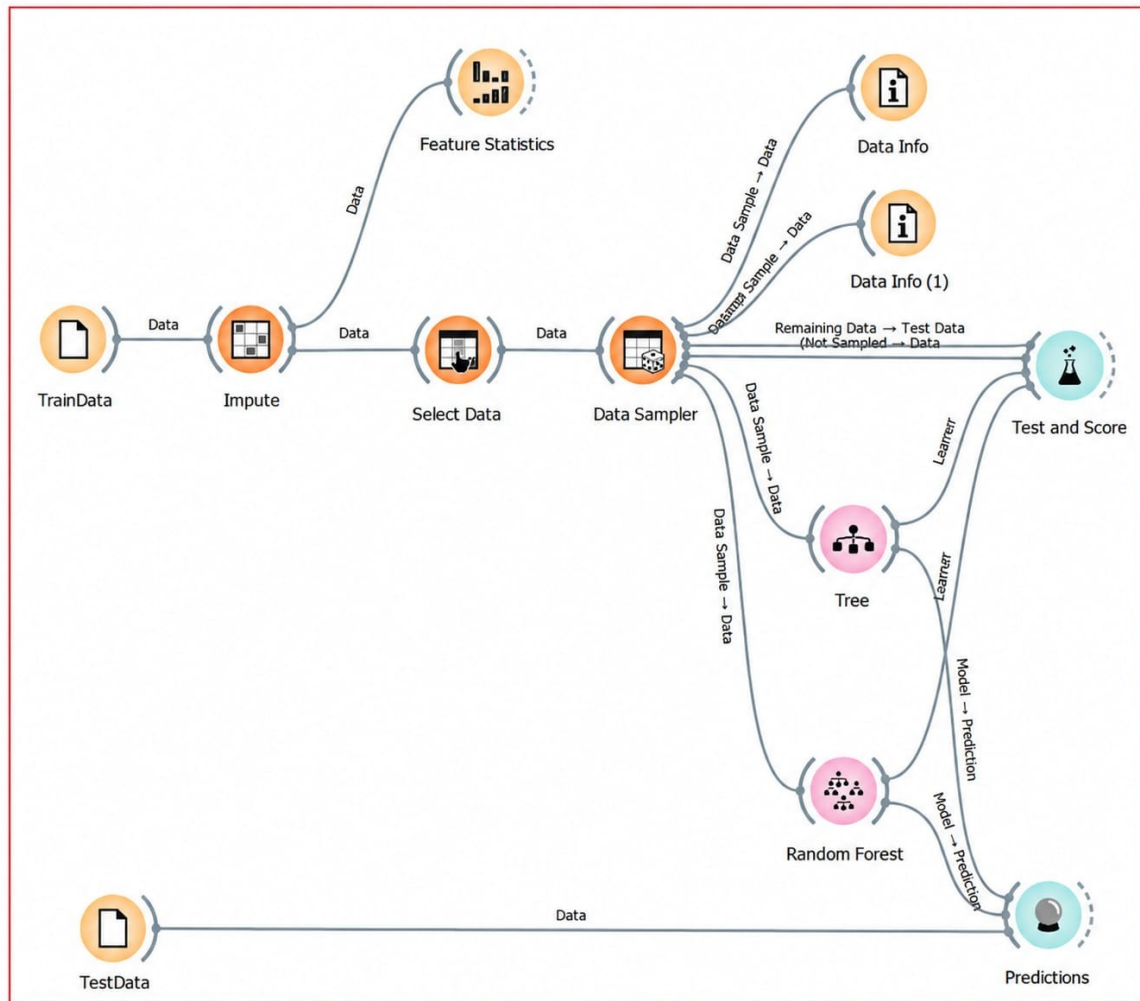
```
    print("Prime Number")
```

```
else:
```

```
    print("Not a Prime Number")
```

RESULT

Enter a number: 24



Not a Prime Number